23696.0001; 20366-035001 SERIAL NO.: 10/087,192 PATENT FILED: March 1, 2002

REMARKS

Claims 1-19 were pending in the application. Claims 1-9, 12-19 have been cancelled without prejudice to presentation in future related applications. Claims 10 and 11 have been amended. New claims 20-38 have been added.

The claims were amended to remove reference to non-elected inventions and to further clarify the claimed invention. Applicants note that the elected invention includes SEQ ID NOS:1174 (genomic) and 1175 (mRNA). Table 1 (filed with the present application (see attached transmittal)) lists sequences relating to the gene referred to as "06-0196". As set forth on page 24 of the published application and as set forth in Table 1, these sequences correspond to hCG21264. Applicants attach a printout from the NCBI Sequence Viewer which sets forth that hCG21264 corresponds to human sialophorin. Accordingly, Applicants assert that the inclusion of the name of the claimed gene does not constitute new matter.

Support for the amendments to claims 10 and 11 and for new claims 20-38 can be found throughout the application as originally filed, including, for example, in the as-filed claims, Tables 1 and 9, and paragraphs [0008], [0009], [0020]-[0022], [0024], [0033], [0048], [0124], [0125], [0141]. [0167] and [0222].

No new matter has been added.

Upon entry of this amendment, claims 10, 11 and 20-38 will be pending.

Restriction Requirement

Pending claims 1-19 are subject to a restriction requirement. The Examiner required Applicants to elect one of eleven allegedly patentably distinct inventions for examination. The Office also required the election of one sequence for examination, noting that if an invention is elected that reads on a nucleic acid, the genomic sequence and its mRNA will be searched. Applicants respectfully traverse on the grounds that searching more than one of the groups set forth by the Office would pose no serious burden on the Examiner.

¹ Paragraph numbering is as set forth in United States Patent Application Publication 20020182586A1.

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MPEP §803 sets forth criteria for determining when restriction is proper, stating, inter alia, that "[i]f the search and examination of all the claims in an application can be made without serious burden, the examiner must examine them on the merits, even though they include claims to independent or distinct inventions." Applicant respectfully asserts that searching more than group would not constitute a serious burden. Although Applicants respectfully traverse the restriction requirement on the grounds that examining more than one invention would not constitute a serious burden, Applicants provisionally elect herein "Group V, Claims 10 and 11, drawn to a method for evaluating the effect of a candidate carcinoma drug comprising administering said drug to a patient, removing a cell sample and determining alterations in the expression or activation of a gene comprising a nucleic acid sequence (06001 to 06-343) consisting of a sequence outlined in Table 1, respectively, classified in class 436, subclass 63". As amended, claims 10 and 11 and new claims 20-38 read on elected Group V.

Applicants reserve the right to prosecute the claims encompassed by any of the nonelected groups in future divisional applications.

Conclusion

The examination of the pending claims and passage to allowance are respectfully requested. An early Notice of Allowance is therefore earnestly solicited. Applicant invites the Examiner to contact the undersigned at (302) 778-8458 to clarify any unresolved issues raised by this response.

Respectfully submitted,

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Minneapolis, MN 55440-1022
(302) 652-5070 telephone
(877) 769-7945 facsimile

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

"EXPRESS MAIL" MAILING LABEL

Docket No. A-71363/RMS/DCF			"EXPRESS MAIL" MAILING LABEL NUMBER EV 047414566 US DATE OF DEPOSIT March 1, 2002			
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		OSITIONS AND METHODS FOR				
NC	VEL COMPC	DSITIONS AND METHODS FOR	CANCER .			
1.	(a)	Enclosed is a new application.				
	(b) <u>X</u>	Enclosed is a continuation-in-part a	pplication.			
	(c)	Enclosed is a copy of the prior appli	ication.			
2.	(a)	Enclosed is a new Declaration.				
	(b)	Enclosed is a copy of the prior exec	uted Declaratio	n as originally filed.		
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	(c)	Enclosed is a Combined Declaration	1/Power of Atto	mey.		

A-71363/RMS/DCF Form 1.16b 01/98

3.	(a)	Enclosed is a Small Entity Affidavit.
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4. __ The filing fee is calculated below:

Claims as filed in the prior application, less any claims canceled by amendment below:

	(Col. 1)	(Col.2)	SN	IALL ENTITY		OTHER T SMALL	
For:	No. Filed	No. Extra	Rate	<u>Fee</u>	<u>Or</u>	Rate	<u>Fee</u>
Basic Fee				\$ 370.00			\$740.00
Total Claims	<u>19</u> - 20 =	0_	$0 \times 9 =$	\$	OR	_x \$18 =	\$
Indep Claims	<u>14</u> - 3 =	_11_	<u>11</u> x 42 =	\$ <u>154.00</u>	OR	_ x \$84 =	\$
[] Multiple D	ependent Cla	ims	+ \$140 =	\$	OR	+ \$280 =	\$
Total				<u>\$ 524.00</u>			<u>\$</u>

^{*} If the difference in Col. 1 is less than zero, enter "0" in Col. 2.

- 5. X NO check is enclosed.
- 6. Our check in the amount of _____ is enclosed.
- 7. ____ The Commissioner is hereby authorized to charge any additional fees which may be required, including extension fees, or credit any overpayment to Deposit Account No. 06-1300 (Order No. A-71363/RMS/DCF).
- 8. Cancel in this application original claims ______ of the prior application before calculating the filing fee. (At least one independent claim must be retained for filing purposes.)
- 9. Amend the specification by inserting before the first line the sentence:

10.	(a)	Informal drawings are enclosed, sheets.
	(b)	Formal drawings are enclosed, sheets.
11.	(a) <u>X</u>	Claims benefit of U.S. Applications Serial Nos. 09/747,377, filed December 22, 2000, and 09/798,586, filed March 2, 2001.
	(b)	The certified copy has been filed in prior application Serial No filed on
12.	An A	Assignment is enclosed.
13.	The	prior application is assigned of record to
14.	A Po	ower of Attorney by Assignee is enclosed.
15.		power of attorney in the prior application is to: EHR HOHBACH TEST ALBRITTON & HERBERT, LLP
	(a)	The power appears in the original papers in the prior application.
	(b)	Since the power does not appear in the original papers, a copy of the power in the
		prior application is enclosed.
	(c) X	Address all future communications to:
		Robin M. Silva, Esq.
		FLEHR HOHBACH TEST ALBRITTON & HERBERT LLP Suite 3400, Four Embarcadero Center San Francisco, California 94111-4187 Telephone: (415) 781-1989
16.	A pr	eliminary amendment is enclosed. (Claims added by this amendment have been properly
	num	bered consecutively beginning with the number next following the highest numbered
	origi	inal claim in the prior application.)
17.	A Pr	rior Art Statement is enclosed.

A-71363/RMS/DCF Form 1.16b 01/98

18	A Sequence Listing is enclosed listing, and paper copy thereof)	I (comprising a communication, computer readable sequence
19. <u>X</u>		incorporated into the specification by reference.
20	I hereby verify that the attached as originally filed on	I papers are a true duplicate of prior application Serial No
Date: <u>3(</u>	·	David C. Foster, Reg. No. 44,685 Patent Agent for Robin M. Silva, Reg. No. 38,304
Address of Signer: <u>Suite 3400, Four Embarcadero Center</u> <u>San Francisco, California 94111-4187</u> <u>Telephone: 415-781-1989</u>		X Attorney or agent of record Filed under Section 1.34(a)
1076384		

ACCESSION #: 06-196

CANCER GENE: mCG22397/hCG21624

MOUSE GENOMIC SEQUENCE (mCG22397)

AGACTATTGGGAGCTGGTGAGGGTCTCCCTATGCTTATGAATTCTCACTGGGAAGGCATAGTAATTCTAGAACTGTGTGTTTATGTATATGCATTTT ${\tt CAAATGTTTGTGTGATGCAGAACTATGCCACCTCCCCTGTAATAATCCATTCAATACCCTCAGGGGAAAACAAAAAATAAAAACCCTCTGTAACTAT$ TGTGTACCACCACTGCCCTGTGACTTTAAGCAATTTAAACAGAGACAGGAGACTGCAATTCTGACCGCTTGGGCAGATGGAAGACTTATACAGCAAA AATATTGTCAGGATTATTTTCTTTCCTGGCTGTCCTGGAACTAGATTTATAGACCAAACTGGCCTTGAATGCAGATCCTGCCTCTGCCTTTAAGTG $\tt CCACCAGGCAGGATTATGCTTTCTTGGTAGGAGGGCAGGGGACTTAAAAGATTGACCAGGACTTAATGGAGGCTGTGACCCTGTGCCCCCCTT$ ${\tt GAGCTGCCCCTAGAGGACTGTTCTTTGAACTGGGATAGTTGTATTCTACTTTGTGTACCTTAATGTTTCCTAAAGGAGTTTATTAGTAGGTCCTCT}$ AAGGCCATCCTCCCCTCCCCACCCCCATACATAAGGCGTATGTGGGCAAAGCCATCTTGGAGAGGGTGACAATTGAATCACCCTGTGAGATGGGG ${f GGAAGCTGGGGATAAGTGGTCAGATTATTATCTTTGCATTTTAAAAAAACATCATATTTTATTTTTAAAAAACCCAGACTTACTGAGAAGTCTACAGCA$ AAGGAGCTGGGGGAGGGGAGCCCTGGAGGCCCAGGGGCTAGAGAGGTCGGGTAGGGGGCTTGGGTGATCAGTGCTGGGAGGAGCCAGGTCTCTACTAG ${\tt GGACTTGCAATGCAGGGAAAGCCCAGACTGCCGCCGTCCAGTTTGATATGTTATTAGGCCCCTCAGCCTTTTGTTTTAAGTTTTTTTGGGACAAATG}$ ${\tt GCAGTCAGCTGTCTCTGCTTTAAGACCTGGAAGAATATCCATGTCCCCCCTTTTCCTCTGACTTGAAGAGTACCAGCTGGGTGTTTTGTGAAGTG}$ GCTAGAAGGACCACAGACTTCCTGCTCCATTACTGGCCTGCTCTATGCCGGGAGATAAAGTCTCTGACTGTAATGAGTACTGTAGTGTCAGCTTG $\tt TTGTTTGATGCAGGGTCTCTCACTGGCCCGGAGCTTGCTGGAGTAGGTTAGGCTGGCAGGTATCAGAATGTCTTGCTGTGCCCAGGGCTGGGGTTGT$ AGGCATACCCTCTCACTCCTTGCTTGGTTTTTGTTGTGTTTTTTTAATGCATGGATTCTGAGGATGAACTTAGGGCCTGATGTTTGTAAGGCAA ${f AGGCATCTTTCCAATCCCACTTCCTATGTTTTAATGGTTGACCTAATACACAGCTTTGAGTCCTTATGGCATTTCTATCAGAGGTCGTTGATATAAG$ ${\tt TTTGTCCTATTATTGTTAAGTTTGGATATTTGGTTAAGGTGGTATCTGCTAGATATTTTTCCACCCTAAAGTTCCTAGCTTCCCTTTTTAAAATCAG$ $A \verb|TCTCTCCAGCCCCTTGTTTTTGTTTTTTGAGATAGGGTTTCTCTGTGTAGCCCTGGCTGTCCTGGAACTTGCCCAAATGCAGTGGCAGCTCGTTAAC$ AATGACTATTTTGCCAAACATAATTTTTTGCCTTAGTAATTTTTTTCTCTCTAAAGTTGGGTACCTTTGTTATCTTCGAACATTTTCCCCTATATTC t TCCCACCTCATAGGATTTATAAATGGTCTTGAGCTACCACAT GTACGCTGGGAATGGAACCCGAATCCTCTGCAAGAGTAGCCAGTGCTCTTGGTCTATGCACAACTGGCAGATGTTAGAAAGGGGCAGGCGGGCTGCCGTGTGAGCTCAAGCGACTGAACCAGGGTCTGTCCAAGAGCAGCAACTGCCTCACT $\tt CTCTAAGCCTTCTCAGGCCTAGTCCTACAGTCTTAAAACATTTTTTCCATCTCTAATTAACAGTTGCTAATTCTTTTGCAGCTGGTTGATTTTCTGTT$

CCTGCTCCCCACACCCTGCCCCACCCCACTTCCTCCCATCCCCACTCCTTTTGCTCCCCTGCCTCCCACCCCCATTCTCTTCTTTTTTGAGACA ATGGGAGGACTATAGTTTCCTCCATCACCCCCAGTCTTCCTTGTTGAAACAATACATGGCTGGAGAGATGTCTCTGTGGTTAAGAGCACTGGCTGTC $oxed{\mathsf{AGAACATAAAAATATGGAGGAAAGAAAACCAAGAGCATTTCCTGAGCTTTGTTTTAATCAGGAAACTTGGGATACTACGTGAACACTGTTCCTCAAG$ AGAGATGACTTCTGCTGCGATGCGTGCCATGACCTATCAGGCAGTTGTGCAGAGATGCTCTGAACTAACATTCCGTCAGTGCACAGTGGGATGCGGA GCCTGCACACCCAGCCACAGGGACAGGAGTCTCAGCTGCTGCTGAGTATGTCACTGGTTTTGTTGTTGTTTATTGAGACAGGATTTCTCTGTAGAG ${ t TAAAAGTGTGTGCTGGTTAAATTTTTTTTTTTTTTTTTAAAGTTTCAGCCTCTATAGGGCTGAGATCACAGCATGTGCTGCTATGCCTGGT$ TGTGTCTAGAATGCCAGGCCCCCATCGCTGTCCCCCAAGCCATTTCTAGCATGGGTTACAGTATACAAGCTGTACTTTGCTAAAGGGACACAGAGTA GCTTGCTTACTTGTGCTATAAATGAAGCACCTTACTGCAAGCCTGGTATTCCTGGGTGGACCTACTGTGTGCAGGATGGAAATCCGGGCCATTTAGT ${f AGCTAGATTAACTCAGTACTCGATGGCTACAGTCCAAGTCCAGACTCTGTCAGCAACCTGCTTTAGTCCTTTTGTTGTTGTTATAGAATTTGGGCTT$ ${ t ATTGAGAGATTTTAAGATACTTTAAATTTCTTTCCTGTTTTGGAGATTTAAAAATATAGATCTGCAGGATCTAGGGTTAAGAGAAAAGAAAAGTGTTC$ AGAAATAAAGACACGCCTGCGAGTGTGGGTGTGGGCCCCTCAAAGGAGAGTCACCCTGCTTCTCTTTTTTTATCATTCACAAAGCTGTTTTTACAGATAAAAACCAGTTATGAATTTTTAAAAGGAAAAGCTCTGAAACAGACATATACCATAAGAATCCGTTTCCTTAATCAAGTCAGGTGACAAGTTATTCA GAGAAGGATCACATAGATCTCCTTACTTGGGGCTTGGGGATGGCTCCGTGCGGCTCTGTGAGGTTCCATGCGGCTCGGTGTAGAGCACTTACTCAAG $\tt GTACACGGTAGCAGTTTTCACACACACCCCAGAAGAGGGCATCAGATCCCATTACAGATGGTTGTGAGTCACCATGTGGTTGCTGGGAATTGAACTCA$ ${\tt GAACCTCTAGAGGAACAGTCAGTGCTCTTAACCACTGAGCCATCTCTCCAGCCCATGGTTAATTTTTAATATAGGTCTTTCTAGAAGTTTTCTTTT$ ${\tt CACCAAGCTGGAACTGAACAGGTCTCCTTCAAGGGCTCCAAACCTTTCAGCCATCGCTCTAGCTCTCTAGTTCTCTAAGACCATAGCATGTGCAAT}$ GTTAGTACTAGCTTAAACTGGGGGCCACAGGAGTGACCTCAATTCCCTGTGGCTCTGGCAGGGTTCAGCAGCCCTAAAAACCTTTCAGGACCACGAG ${\tt CAGAGTTGAGAGGTTTCCCCGGCCCTGCAGCTTTCTTGGAGCTCTTCGGCAGGAAGTGCACCCACAGTCTCAGGGTCTCAGGTTCTGGCCAAACAG}$ $\tt CTTGAGGAGCAAGGGAGAGGAAAGGAAACGGTTCTCCCCTCCATATCTTCCACTCCACCCCTACTCCCCATCACTCATCTCTGACACTTGGACTCCAG$ TGAAAACCTAAGAATTCCCGTCTGGACCCCGAGCATCCTTTCATGCCTCCACTGAACCCTTGGGTCCCCACAAGCAACTATGGGAGTAGGAATGGGT $\tt GGGGCAGGATGCAGGGGTGGAGTGGAGCCAAGACCCACTTCCTTTCCCCCTGGGGCTCAGTCTGCCCCAGTCCTGACCAAGCCTCAGGAAGAA$ $\tt CTGGAGGTACTTGCCCTGGCCCTGTGCCTTAACCATTAATCTGGTAAGAGGGTATGATCTTGCTGGGTACGGGGGTGGGGATGCTCAGAGGATGAAG$ ${\tt TGCTCTGGAGTCTGAGCTGCCAAGGCCAGGGTGGGAGTCACTGGCGCCATCTGTTCCCCTGTTGTCTCTGATAATAGTGAAAGCAAGAATGGAAAAAA}$ ${\tt CAACCGCGTTCTTCTGTAACTTCCCTACATTCAGGTCCCAACTCCTGCTCCTGCTCTCTTGGAGATGGCCTTGCACCTTCTCCTCTTTTGG}$ GGCATGCTGGGTCCAGGTGGCGAGCCCAGACAGTCTGCAGAGGACGACGATGCTACCATCTACCCCACATATCACAGCTCCAAGTACCTCTGAAGCC $\tt CCCCCTTGGAAACTACTGAATTGTCTTCTTTGGAGACTTCTGCTGGTGCCAGCATGAGCACCCCTGTACCTGAGCCTACTGCCTCTCAGGAAGTTTC$ TGCTACCACAGCAACCAGTTCTGTGGAGAGTTCCAGTGTGGCCCGTGGCACCTCAGTTTCCAGCAGAAAAACATCCACGACGTCTACCCAAGATCCC ATAACCACCAGGTCACCAAGCCAAGAATCAAGTGGCATGTTACTGGTGCCCATGCTTATTGCCTTGGTGGTGGTTTTTGGCCCTCGTGGCGCTACTGC $\tt CCGGGTTCCTGATGAAGAGGCCACAACCACATCAGGGGCAGGGGGCAACAAGGGCTCTGAGGTACTGGAGACAGAAGGCTCCGGGCAGAGACCCACG$ AGCCGCTTGTGGGCAGTGAGGATGAAGCTGTGGAAACCCCCAACTTCTGACGGTCCACAAGGCCAAAGATGAGGCCGCACCTCAATCTCTATGAGCAACTTGCTGAATCACCATGAGGATGATCTTAGTGGACCCACATTTTCCCCGAGGATCCCCCTTGGAATTCTGGGATCCCAACAGGCCAGAAAACTCCCTA $\tt GTCCACTCAGAAGTATGGTTTGTGCAAGATAGGACAATTTAGGTGATGGCTGCAAACAGTACTGGTGAATATAGACCATGGGAGAAAGCAGGGCA$ $\tt GGTGCTGGTGAGTTCCAAAAGGAGGGACCCAGGAGCTGTACCCTGTCTGCTGAAGACCTAAGTGTGTCTGCAGCCCCCAGAAGAATGCAAATGTGAT$ GGGGACTAAATGTGCCATCAAGTGTGCGTTCTTCAGCTAAGCTGCCATATCCTTCCCTCAGAGGCTCCCTCACACCAGCTCTCACCACGCCCACACC GTGCACACCAGTAGGCACACATGCAAGATCGGGAGAGGAGTCAGCCAAGTGCGGTGACTGGGTGGCACAAACCCCTGGTGTTGATGCTTTTCTCT GTGGTCCAAAGGTGGTTGCTGGAGGAGATGTGCAAGAGGAAGCTGTTGAGTCAGAGGGCGCTGCCCTTGAGAACAGACTGACCTACAGAAAGAGATG AGCTGCCATCGTTCCCTCCGAGTCTGTGGGGAAGAGGGAAGGGCTGAGCTGAGCTGGGCCACACTGAACCCATTTCTACTGCTCACTAGG ${\tt TGGAGGAAGACAAGGAAATGGGGTAGAGATGGTGGCTAGCACCCAACAGGACCTCAGCCCAGACAGGGTCAGATGTTCTGGGTGCTAAGTGGAATGA}$ TGGATGGATGGATGAATGAATGAGCCATTGGCAGATAGCAGGGGAAGGCACTTAACACAAAGACTAGTAATGCAAAGTATGTAAGTGGAGCAGAGAT CATGGTGGACACAGACAGGTGGACAGGTGTCCTTCAGCTCGGGAGAGAAAAGCCCAGTGAGTAACAGATACGGAAAAAGGCAAAAATAGAAGGA AGCTACATCCTGCGTGTTTAGTGTGTCCTCCTAAACGTGGGGAATTTAAGTGTGATTTTTCACCTTAGTTTTCTGTGTTTTACACAATAAATGTCT $\tt CTAATTTCACAGTTATGAAAAACATTGGTGAGGGGGCTGGGAAATGGCTTCTTGATTAGAGCACTGCTGTTCCCAGGCTCTGTTCCCAGCACCTT$ AAGCGGCAGCTCCCAACTGTCTGCAGCTCCAGTTCCAGGAGATCCAATGGCCTCTTACGACCTTCAAGGGCACCAGGTATTCATGTGGTTACAAATA $\tt CCGTGACTCTCCCACTAGTCGGTCCCTTCTCCCCATGGTCCTTTCTTCAGGTCTCATTTTGCCTGTGCTTTCCTGAGATCCTTGCATAACCCCACCC$ AACATAAACCATGAGCCAGCCCTGGTAACACAAGCCTGTTGCTCCTGGAACTTGGGAAGTGTTACAGAAGGGTCAGGAGCTTGAGGCCATCCTGGGC GACACCCTCACACATGCATGCAGACAAAACACCATTGCACATAAAATACAAATTAATATACTAAAACCATCTTGGTCTACACAGCAAGTTCCAGGGT ${\tt AAGGGAAAGGCAGGGCCTCTGCTGGCCTGTCAGGGTCAGGGCTGGAAAACCCGTGGGTTCTGTGATTTGGGATTTCATCATCTTTTTCCCTTAA}$ $\tt CTGAACTCTGGTCCCAAGTCTTCACCACCGAGCCATCTCTCTGGCTTTCCAAGCTCAGCTTATTTCATGTGGTCCTGGGGATGGAACTCAGGTCCCC$ ${\tt TCATGCCTATGCATCTAGAACCTTAGCACCCAAGCCATCTCCTCCTACTTTTAAATTTCTTTTAAACCTATAAACTTTATCGTCAGAACTGACTACAT$ AACATATTCTGCTCTGCAGAGGACCCAAGTTCGGTTCCTACACCCATGTCAGGTGACTACAACCATCTGTGACTCTAGCCCATGGGGACTCAATACC TCTTCCTATGGTTTGTGACATCAAGACAGGCTGGCTGCACCTTGGCCAAGATCCCAGTGAAAACAGAACCAATCGTTAGCCAAGAGAGCCACCTGCT $\tt TGCCTTTGCGTTTGTACAGGCTCTGCCCAAAACCAGCCCACTGCCAGTTGTCCCCACAGTACACTCGTGTGACTTCTCACCAGACTCCTCCTCAACC$ ${\tt TCCTGTGGGGGACAGGGGCACTATGTTCATATTGCTATACGGACAACTCTGCAATATTTCCTTGAGACGGGTTTCTTACTGAACTTGGAGCTGT}$ GAGAGCATGGCCACACCCAACTTTTTCACATGGGTGCTGTGGGTCCAGACTCAGGTCCTCAAGTCTGCACAGCCAGTGCTCTTATACACAGAGCCAT $\tt CTCCCGAGTCTGGACCTGACCTGCTGACCCCCTGCCTCCACCTCCTGAGTGCTGCCATTACAGGTGAGTGCCACCATACCTGGCATGTGCAGTG$ $\verb|TTCCAACGTTGCGCTGCATCGTCTTTACAGAGAGCCCAACACCCCAGGCTGCCGAATACAGGGTTGCTGCCCAGAGGTGTAAGCACAGGAGTGAATTC|$ CATCTGTGGCCCAGGCTGGGCTCAAGTGCCCCTCTGGAGTAGCTGGAATTACAGGCATGAACTATGGTGATCCATTTATGATCAGCTGTAATAACGGTGTGGTGGATAAATAGAGAAGTTATATCATTTACTGCATACAGCTATGCGCTGTGCCAGCAGAAATGCCCCTTGAGTCAGAATGCTGACATTTGGGG CACAACTGTGACTTCAGTCCCAGGAGATCTGACACCCTCTTCTGGCCTCCTTGGGCACCATGCGTGCAGGTGACACACAGAGGTACATTCAGGTCAA ATACCCATATACATTTTTTTTTTTTTTAAAAATAAATGCTGGGCTGGTGAGATGGCTTAGTGGGTAAGAGCACCCGACTGCTCTTCCGAAGGTCCAG AGTTCAAATCCCAGCAACCACATGGTGGCTCACAACCATCCGTAACGAGATCTGACTCCCTCTTCTGGTGTGTCTGAAGACAGCTACAATGTACTTA

MOUSE mRNA SEQUENCE (mCT22492)

MOUSE PROTEIN SEQUENCE (mCP10498)

PLIWSQLLLLPVPLEMALHLLLLFGACWVQVASPDSLQRTTMLPSTPHITAPSTSEAQNASPSVSVGSGTVDSKETISPWGQTTIPVSLTPLETTEL SSLETSAGASMSTPVPEPTASQEVSSKTSALLPEPSNVASDPPVTAANPVTDGPAANPVTDGTAASTSISKGTSAPPTTVTTSSNETSGPSVATTVS SKTSGPPVTTATGSLGPSSEMHGLPATTATSSVESSSVARGTSVSSRKTSTTSTQDPITTRSPSQESSGMLLVPMLIALVVVLALVALLLLWRQRQK RRTGALTLSGGGKRNGVVDAWAGPARVPDEEATTTSGAGGNKGSEVLETEGSGQRPTLTTFFSRRKSRQGSLVLEELKPGSGPNLKGEEEPLVGSED EAVETPTSDGPQAKDEAAPQSL

HUMAN GENOMIC SEQUENCE (hCG21624)

 ${\tt AGTTCGTTACAAAGGACCTGAAGAGAGGGGTTTAACTGACCTGCAAGGTGGAATGGGGCCAGTGGGCCAGTGGGTCAGACACCTATGATTATGC}$ GTGGACCCACCAGTAGAATTGAGACTAGAAAAAGTTAAAAGCATTAGAAGTGTTCTCTTTCTGAGATCATGACTTGTTGGGGAAAGGGAAGACTTAT AGCAAGCCCCAGTCCTGTGGCCCTGGAGGATCAGAAGGGTAATTAAGTGTCAAAGGAAAACATAGCCAGACATGAGTTACTGTGGTGAAAACAGATT ${\tt GGACAGGGTCTCGATCTGTTGCCCAGGCTTGTGATTGTGCCTGTTGCTCAGATTGTGCAGTGGCACAATCATGGCTCACTGCAGCCTCGAACTCCCAACTCCCAACTCCCAACTCCCAACTCCCAACTCCCAACTCCCAACTCCCAACTCCCAACTCCCAACTCCCAACTCCCAACTCCCCAACTCCCCAACTCCCAACTCCCAACTCCCAACTCCAACTCCAACTCCAACTCCCAACTCAACTCAACTCAACTAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACT$ ${\tt TGAAACAGAGTCTCGCTCTGTTGCCCAGGCTGGAATGCAGTGGCATGATCTTGGCTCACTGCAACCACCTCCTGGGTTCAAGCAATTCTCCTGC}$ $\tt CCGCACCAGTGTCTCTCTTATAACACCAGCTAGTCCTTATCAGGCTTTGACTGTGGGCCCCTCACCTGTCTAACTTATCCTTCCCAGGAACTTTG$ AGTCAAGCTCAGGTACCCCTCCCCTTCTGTGGCTTCCCTGCCTCCAGGCTTCTGCCAGCCCCTGTCTACCTTGGTGTAGGAGCGGCCCCTCAAAGAC $\tt CTGCAGGGAGCCGGGCACGGCGCACGCCTATAATCTCAGCACTTTGGGAGGCTGAGGTGGGCGTATCATGAAACCCTGTCTCTACTAAAAATAC$ AGAAATTAGCCGGGTGTAGTGGTGGGCACCTATGATCCCAGCTACTCAGAAGGCTGAGGCAGGAGGAACGCTTGAGAACCCCAGAGGCGGAGGTTGC $\tt CTCCAGGCACACCCAGCCTCCCTGGCCTCATCACTCCCCTCTCTGCCCTCCACCCTTTGGCCTCCTTGCCTTTGTCCACAGTTCTGCAGCCT$ GATACCCTCTTCCTTGTCTCAACCAGAGAAGTCTTCAGTCAATAAACGTCATCCAATGCCTACTGTGTGTCAAGCACTTCCTGGGTGCTGGGGCACT TGCTCTGTCACCCAGGCTGGAGTGCAGTGGCGTGATCTTGCAAACTCCGCCGCCTGGGTTCACGCCATTCTTCTGCCTCAGCCTCCTGAGTAGCTGG GACTGCAGGCACCCGCCACCATGTCCGGCTAATTTTTTGTATTTTTAGTATAGACAGGGTTTCACCGTGTTAGCCAGGATGGTCTTGATCTCCTGAC $\tt TGGGCTCCGTGGCACACACCTGTAATTCCAGCACTTTGGGAGACCGAGGTGGGAGGCTCACTTGAGTCTAGGAGTTTGAAACAAGCCTGGGCAACAA$ AGCAAGATCCCATCTGTATGAAAAATTTAAAAATTAGGCCGGGCATGGTGGCTCATACCTGTAATCCCAGCACTTTGGGAGGCCGAGGAGGGCAGAT

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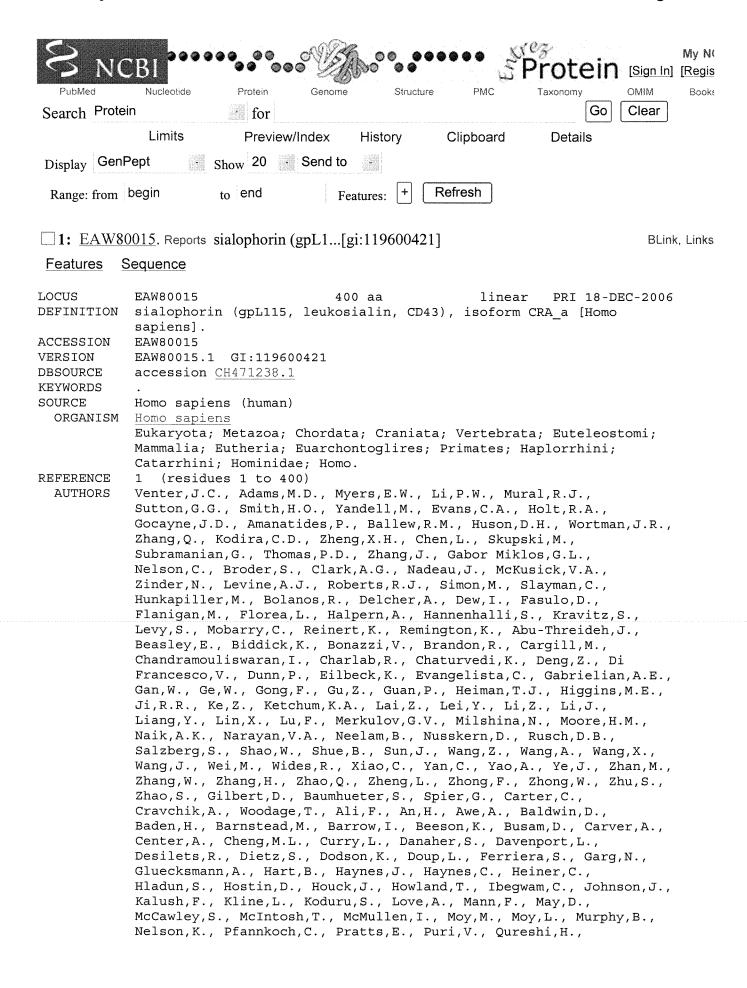
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HUMAN mRNA SEQUENCE (hCT1686293)

HUMAN PROTEIN SEQUENCE (hCP1690086)

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            The sequence of the human genome
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            Science 291 (5507), 1304-1351 (2001)
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            Mural, R.J., Istrail, S., Sutton, G., Florea, L., Halpern, A.L.,
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            Mobarry, C.M., Lippert, R., Walenz, B., Shatkay, H., Dew, I.,
            Miller, J.R., Flanigan, M.J., Edwards, N.J., Bolanos, R., Fasulo, D.,
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